Gunter, Jason

From: Nations, Mark [mnations@doerun.com]
Sent: Thursday, October 10, 2013 10:34 PM
To: Gunter, Jason
Cc: England, Jason; Yingling, Mark; Wohl, Matthew; robert.hinkson@dnr.mo.gov; Ty Morris (TMorris@barr.com); Sanders, Amy B.
Subject: 3rd Qtr Reports
Attachments: BTE 3rd Qtr 13.doc; BRMT 3rd QTR 2013.doc

Jason,
Attached is the 2013 3rd quarter reports for BTE and BRMT.
Mark

THE DOE RUN COMPANY

Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

October 11, 2013

Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
901 North 5th Street
Kansas City, KS 66101

Re: The Doe Run Company – Bonne Terre Superfund Site, Eastern and Western Portions Quarterly Progress Report

Dear Mr. Gunter:

As required by Article VIII, Section 33 of the Administrative Order on Consent (Docket No. CERCLA-7-2000-0024) and Article VIII, Section 29 of the Administrative Order on Consent (Docket No. CERCLA-7-2000-0025) for the referenced projects and on behalf of The Doe Run Company, a progress report for the period July 1, 2013 to September 30, 2013 is enclosed. If you have any questions or comments, please call me at 573-518-0800.

Sincerely,

Mark Nations
Mining Properties Manager

Enclosure
c: Jason England – TDRC
Mark Yingling – TDRC (electronic only)
Matt Wohl – TDRC (electronic only)
Robert Hinkson – MDNR
Ty Morris – Barr Engineering

Bonne Terre Mine Tailings Site

Bonne Terre, Missouri

Removal Action - Quarterly Progress Report

Period: July 1, 2013 – September 30, 2013

1. **Significant Developments and Work Performed this Period:**
   a. The third quarter 2013 stormwater sampling event for the southern detention basin sampling point (eastern portion) was completed. Results of this sample are included with this progress report.

2. **Problems Encountered this Period:**
   a. None.

3. **Significant Developments Anticipated and Work Scheduled for Next Period:**
   a. Complete the fourth quarter 2013 stormwater sampling event for the southern detention basin sampling point.
   b. Resume work on the Post-Removal Site Control Plan for the Eastern portion of the Bonne Terre Mine Tailings Site.

4. **Planned Resolutions of Past or Anticipated Problems:**
   a. None.

5. **Changes in Personnel:**
   a. Jason England has temporarily been reassigned to another position within Doe Run. While he is on this assignment he will not be very involved with the work at this site. Genevieve Bodnar, an environmental engineer in Doe Run's mining division, will be providing support to the remediation crew on an as needed basis during Jason's absence. Mark Nations will continue in his existing role and will be the primary contact for the work at this site.

THE DOE RUN COMPANY

Remediation Group

Mark Nations
Mining Properties Manager
mnations@doerun.com

October 11, 2013

Mr. Jason Gunter
Remedial Project Manager
U.S. Environmental Protection Agency
Region 7 - Superfund Branch
901 North 5th Street
Kansas City, KS 66101

Re: The Doe Run Company – Big River Mine Tailings Site Quarterly Progress Report

Dear Mr. Gunter:

As required by Article XV, Section 55 of the Administrative Order on Consent (Docket No.VII-94-F-0015) for the referenced project and on behalf of The Doe Run Company, the progress report for the period July 1, 2013 through September 30, 2013 is enclosed. If you have any questions or comments, please call me at 573-518-0800.

Sincerely,

Mark Nations
Mining Properties Manager

Enclosure
c: Jason England – TDRC
Mark Yingling – TDRC (electronic only)
Matt Wohl – TDRC (electronic only)
Robert Hinkson – MDNR
Ty Morris – Barr Engineering

Big River Mine Tailings Site
Desloge, Missouri
Quarterly Progress Report
Period: July 1, 2013 – September 30, 2013

1. **Actions Performed or Completed This Period:**
   a. Representatives from Doe Run monitored the three well points and took water level readings from the two monitoring wells installed as part of the "Action Plan for Tailings Movement Observed on the Big River Site 6 Slope."
   b. Vegetation maintenance activities, including the use of biosolids, continued on portions of the site that were vegetated during the completion of removal action activities.

2. **Data and Results Received This Period:**
   a. No indication of water in the well points was identified during the checks of the well points. Rods in the well points have mold growing on them.
   b. Groundwater elevations in the two monitoring wells continue to fluctuate very little.

   a. During the month of July, approximately 1.58 inches of precipitation fell at the site over 9 different events. The largest rainfall event was 0.53 inches over a 4-hour period. No event was large enough to qualify as a rainfall frequency event.

   b. During the month of August, approximately 3.62 inches of precipitation fell at the site over 9 different events. The largest rainfall event was 1.51 inch over a 4-hour period. No event was large enough to qualify as a rainfall frequency event.

   c. During the month of September, approximately 1.97 inches of precipitation fell at the site over 10 different events. The largest rainfall event was 0.57 inches over a 2-hour period. No event was large enough to qualify as a rainfall frequency event.

3. **Scheduled Activities not completed This Period:**
   a. None.

4. **Planned Activities for Next Period:**
   a. Doe Run staff will continue to check the well points for indications of a shallow water table and take water level readings from the monitoring wells.

5. **Changes in Personnel:**
   a. Jason England has temporarily been reassigned to another position within Doe Run. While he is on this assignment he will not be very involved with the work at this site. Genevieve Bodnar, an environmental engineer in Doe Run's mining division, will be providing support to the remediation crew on an as needed basis during Jason's absence. Mark Nations will continue in his existing role and will be the primary contact for the work at this site.

6. **Issues or Problems Arising This Period:**
   a. None.

7. **Resolution of Issues or Problems Arising This Period:**
   a. None.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

August 07, 2013

Amy Sanders
The Doe Run Company
P. O. Box 500
Viburnum, MO 65566

RE: Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Dear Amy Sanders:
Enclosed are the analytical results for sample(s) received by the laboratory on August 02, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church

jamie.church@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
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(913)599-5665

CERTIFICATIONS

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150137001	**BTE 3RD QTR-2013**	Water	07/31/13 20:19	08/02/13 06:10

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SAMPLE ANALYTE COUNT

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60150137001	**BTE 3RD QTR-2013**	EPA 200.7	JGP	6	PASI-K
		EPA 200.7	JGP	3	PASI-K
		SM 2540D	LEM	1	PASI-K
		SM 2540F	LEM	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		EPA 300.0	OL	1	PASI-K
		SM 5310C	TJJ	1	PASI-G

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ANALYTICAL RESULTS

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Sample: BTE 3RD QTR-2013 **Lab ID: 60150137001** Collected: 07/31/13 20:19 Received: 08/02/13 06:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Cadmium	ND	ug/L	5.0	2.5	1	08/02/13 15:00	08/06/13 14:51	7440-43-9	
Calcium	**166000**	ug/L	100	10.4	1	08/02/13 15:00	08/06/13 14:51	7440-70-2	
Lead	**8.6**	ug/L	5.0	2.4	1	08/02/13 15:00	08/06/13 14:51	7439-92-1	B
Magnesium	**97000**	ug/L	50.0	6.5	1	08/02/13 15:00	08/06/13 14:51	7439-95-4	
Total Hardness by 2340B	**814000**	ug/L	500		1	08/02/13 15:00	08/06/13 14:51		
Zinc	**157**	ug/L	50.0	3.3	1	08/02/13 15:00	08/06/13 14:51	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
Cadmium, Dissolved	ND	ug/L	5.0	2.5	1	08/05/13 16:30	08/06/13 18:12	7440-43-9	
Lead, Dissolved	ND	ug/L	5.0	2.4	1	08/05/13 16:30	08/06/13 18:12	7439-92-1	
Zinc, Dissolved	**67.3**	ug/L	50.0	3.3	1	08/05/13 16:30	08/06/13 18:12	7440-66-6	
2540D Total Suspended Solids	Analytical Method: SM 2540D								
Total Suspended Solids	ND	mg/L	5.0	5.0	1		08/05/13 08:33		
2540F Total Settleable Solids	Analytical Method: SM 2540F								
Total Settleable Solids	ND	mL/L/hr	0.20	0.20	1		08/02/13 00:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.10	1		08/02/13 13:09		H3,H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**391**	mg/L	50.0	8.0	50		08/06/13 16:12	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**1.2**	mg/L	0.50	0.041	1		08/07/13 09:28	7440-44-0	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: MPRP/23703 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150137001

METHOD BLANK: 1230192 Matrix: Water
Associated Lab Samples: 60150137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium	ug/L	ND	5.0	08/06/13 14:07	
Calcium	ug/L	ND	100	08/06/13 14:07	
Lead	ug/L	2.7J	5.0	08/06/13 14:07	
Magnesium	ug/L	6.6J	50.0	08/06/13 14:07	
Total Hardness by 2340B	ug/L	ND	500	08/06/13 14:07	
Zinc	ug/L	ND	50.0	08/06/13 14:07	

LABORATORY CONTROL SAMPLE: 1230193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	981	98	85-115	
Calcium	ug/L	10000	9980	100	85-115	
Lead	ug/L	1000	966	97	85-115	
Magnesium	ug/L	10000	9870	99	85-115	
Total Hardness by 2340B	ug/L		65500			
Zinc	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1230194 1230195

Parameter	Units	60149948002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	ND	1000	1000	987	973	99	97	70-130	1	10	
Calcium	ug/L		10000	10000	59700	58600	103	92	70-130	2	9	
Lead	ug/L	ND	1000	1000	950	934	95	93	70-130	2	10	
Magnesium	ug/L		10000	10000	188000	187000	111	96	70-130	1	9	
Total Hardness by 2340B	ug/L	853 mg/L			924000	915000				1		
Zinc	ug/L	ND	1000	1000	990	976	99	97	70-130	1	11	

MATRIX SPIKE SAMPLE: 1230196

Parameter	Units	60150139002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	ND	1000	966	97	70-130	
Calcium	ug/L	42000	10000	51800	98	70-130	
Lead	ug/L	4.5J	1000	966	96	70-130	
Magnesium	ug/L	25400	10000	36400	110	70-130	
Total Hardness by 2340B	ug/L	210000		279000			
Zinc	ug/L	47.9J	1000	1050	100	70-130	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: MPRP/23720 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150137001

METHOD BLANK: 1231216 Matrix: Water
Associated Lab Samples: 60150137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cadmium, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Lead, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Zinc, Dissolved	ug/L	4.9J	50.0	08/06/13 18:00	

LABORATORY CONTROL SAMPLE: 1231217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium, Dissolved	ug/L	1000	936	94	85-115	
Lead, Dissolved	ug/L	1000	963	96	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231218 1231219

Parameter	Units	60150136001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium, Dissolved	ug/L	ND	1000	1000	944	932	94	93	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	947	930	95	93	70-130	2	10	
Zinc, Dissolved	ug/L	547	1000	1000	1510	1490	96	94	70-130	1	11	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: WET/42711 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150137001

METHOD BLANK: 1230967 Matrix: Water
Associated Lab Samples: 60150137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/05/13 08:33	

SAMPLE DUPLICATE: 1230968

Parameter	Units	60150136001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1230969

Parameter	Units	60150107001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	6.0	0	25	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: WET/42688 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 60150137001

SAMPLE DUPLICATE: 1230063

Parameter	Units	60149917001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	5	H1,H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: WETA/25691 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60150137001

METHOD BLANK: 1231399 Matrix: Water
Associated Lab Samples: 60150137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	08/06/13 10:20	

LABORATORY CONTROL SAMPLE: 1231400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5	5.0	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231401 1231402

Parameter	Units	60149422001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	15.9	10	10	28.6	28.9	126	129	61-119	1	10	M1

MATRIX SPIKE SAMPLE: 1231404

Parameter	Units	60150075002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	28.5	50	82.2	107	61-119	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

QC Batch: WETA/18827 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 60150137001

METHOD BLANK: 833384 Matrix: Water
Associated Lab Samples: 60150137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	0.50	08/07/13 10:22	

LABORATORY CONTROL SAMPLE: 833385

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 833386 833387

Parameter	Units	4082116001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	2.1	7.5	7.5	10.2	10.2	108	107	80-120	1	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALIFIERS

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-K	Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H1	Analysis conducted outside the EPA method holding time.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BONNE TERRE (QUARTERLY)
Pace Project No.: 60150137

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150137001	**BTE 3RD QTR-2013**	EPA 200.7	MPRP/23703	EPA 200.7	ICP/18596
60150137001	**BTE 3RD QTR-2013**	EPA 200.7	MPRP/23720	EPA 200.7	ICP/18609
60150137001	**BTE 3RD QTR-2013**	SM 2540D	WET/42711		
60150137001	**BTE 3RD QTR-2013**	SM 2540F	WET/42685		
60150137001	**BTE 3RD QTR-2013**	SM 4500-H+B	WET/42688		
60150137001	**BTE 3RD QTR-2013**	EPA 300.0	WETA/25691		
60150137001	**BTE 3RD QTR-2013**	SM 5310C	WETA/18827		

Pace Analytical

Sample Condition Upon Receipt

WO#: 60150137

60150137

Client Name: DRC

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other FEDEX

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ Zip lc

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AVB-2-13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. 5-5 pH
Rush Turn Around Time requested: AVB-2-13	☑Yes ☐No ☐N/A	7. 3Day
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9. Did not received volume for TOC.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Jim Church 8/2/13

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A — **Required** Client Information:

Company:	The Doe Run Company
Address:	PO Box 500
	Viburnum, MO 65566
Email To:	asanders@doerun.com
Phone:	573-689-4535
Fax:	573-244-8179
Requested Due Date/TAT:	~~5-7 Days~~ 3 Day

Section B — **Required** Project Information:

Report To:	Amy Sanders
Copy To:	
Purchase Order No.:	
Project Name:	Bonne Terre (Quarterly)
Project Number:	

Section C — Invoice Information:

Attention:	Amy Sanders
Company Name:	The Doe Run Company
Address:	PO Box 500, Viburnum, MO 65566
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER

Site Location STATE: MO

Section D — **Required** Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ (Y/N)	TSS (N)	Sulfate (N)	Settleable Solids (N)	TOC (N)	Cd, Pb, Zn (T&D) (N)	Hardness (N)	pH (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60150137
1	BTE 3rd QTR-2013	W	G			07/31/13	2019	[illegible]	4	2	1	1							X	X	X	X	X	X	X	N	180PW 180PZW 180PW-T5 [illegible]
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
* 200.7 Total and Dissovled Metals (Lab Filter for dissolved)	Amy Sanders	8/1/13	1530	[signature] PASI	8-2-13	~~0610~~ 0610	2.1	Y	Y	Y
**analyzed within 24 hours with flagged data										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Amber Nipper / Amy Sanders

SIGNATURE of SAMPLER: Amy Sanders

DATE Signed (MM/DD/YY): 7/31/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007